REMARKS

Favorable reconsideration and allowance are respectfully requested. Claims 13-28 are pending. Claims 14, 15, 16, 26 and 27 have been amended to correct improper antecedents and informalities. No new matter has been added. Thus, claims 13-28 are pending and at issue.

Rejections Under 37 U.S.C. § 112, Second Paragraph

Claims 13-28 were rejected under 35 U.S.C. §112, second paragraph as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Without conceding the propriety of the rejection, Applicants have amended the claims to correct improper antecedents and informalities.

With regard to the rejection based on the recitation of "substantially similar", the Examiner's attention is directed to pages 18-19 of the Substitute specification filed on July 5, 1996. The specification states that the method of the present invention may be used to obtain casings having tube extension properties similar to those of paper substrates which rely on resins for their wet strength. Such prior art resins inherently possess less stretch at a given basis weight and to compensate

for this, the present invention has reduced the paper basis weight by 30-40%. This basis weight reduction, together with the use of the new die arrangement, produces casings having elasticity properties substantially similar to that of prior art casings.

The elasticity properties of the casings produced by the claimed method are shown in the Examples, e.g. in Table 1, wherein casings produced by the claimed method are compared to prior art casings. As discussed in the text accompanying the Examples, e.g. at page 24 of the substitute specification, the elasticity properties of the casings prepared by the claimed method are indeed substantially similar to that of prior art casings and based on the discussion in the text, the skilled artisan will recognize what is meant by the term "substantially similar" when one compares prior art casings with those prepared by the claimed method.

Favorable reconsideration and withdrawal of the rejection under Section 112, second paragraph are respectfully requested.

Rejection Under 35 U.S.C. § 112, First Paragraph

Claims 13-28 were rejected under 35 U.S.C. §112, first paragraph, for allegedly failing to provide an enabling disclosure. The Examiner asserted that

> the disclosure is enabling only for claims limited to including that the gap between the lips of the die, both upwards and downwards in the cylindrical disposition with the formed tube of paper and the face of the supporting metal ring or cylinder is fixed at .5-.7 (January 8, 1998 Official Action at 2).

Applicants respectfully traverse this rejection for the reasons below.

The present invention relates to a method of manufacturing a fibrous cellulose casing. The method of the present invention provides superior impregnation of viscose during manufacturing, ensures smooth surfaces of the inner and outer casing surfaces and renders the need for double-sided viscosing unnecessary, unlike prior art methods.

As stated on pages 16-17 of the subject specification, these methods are accomplished by preferably using a paper lead-in distance, dimension 3 of Figure 1, of between 5-10 mm, depending on the basis weight of paper impregnated and the line speed used. Similarly, the lead-out side of the die, the lip width, dimension 2 of Figure 1, should be between 2-10 mm in conjunction with a paper support ring of 10-25 mm in length. In

a preferred embodiment, "c" is fixed at .5-.7 mm, but the skilled artisan will realize, in the context of the present specification, that one may alter the dimensions of "c" to optimize the claimed method without departing from the scope of the invention.

According, favorable reconsideration and withdrawal of the enablement rejection are earnestly solicited.

§103 Rejections

Claims 13-28 were rejected under 35 U.S.C. §103 as unpatentable over Underwood alone or in combination with Smith. Applicants respectfully traverse this rejection for the reasons of record and those presented below.

Underwood

The Examiner asserts that the process of producing food casings by impregnating manilla hemp paper with viscose, and then regenerating the viscose to cellulose, has long been known in the art, and that simply using a different type of paper as a starting material is an obvious variation of this known process. This line of reasoning is improper for a number of reasons.

It is admitted by the Examiner that Underwood does not disclose a process for making casings from paper weighing 15g/m^2 or less, and Applicants submit that Smith likewise does not teach

such a process. However, the Examiner has asserted that since there was an economic incentive to reduce the (paper) basis weight of casing, it would have been obvious to simply use light-weight (15g/m^2 or less) paper with a prior art process. However, economic incentive in the context of this invention actually weighs against obviousness.

The reference teachings suggest, at most, that one skilled in the art might find it obvious to try the claimed invention. But whether a particular combination might be "obvious to try" is not a legitimate test of patentability. In re Fine, 5 U.S.P.Q. 2d 1596, 1599 (C.A.F.C. 1988); Ex parte Old, 229 U.S.P.Q. 196, 200 (Bd. Pat. App. Inter. 1985).

Although economic incentive may in certain situations provide the skilled artisan with a basis for attempting "obvious" modification of a known process, the fact that there exists an economic incentive to achieve a goal, combined with a long-standing inability of those skilled in the art to achieve that goal, highlights the nonobviousness of the invention that finally does achieve that goal.

Applicants agree that there has long been, and still is, an economic incentive to make food casings from the most light-weight of papers. However, prior art light-weight papers all lacked the requisite stretch and strength properties

necessary to make food casing: i.e., the paper was generally not strong enough to survive modern high-speed casing-manufacturing processes intact (specification, page 7, lines 3-7), and if casing-manufacturing process was slowed-down to preserve the integrity of the weaker, lighter paper, the process became economically disadvantageous (Specification, page 9, lines 8-13). It was also economically disadvantageous to design new dies specifically designed for light-weight papers (specification, page 8, line 35). The desirability of using light weight papers therefore represented a goal unobtainable with prior art processes.

The present invention has succeeded in overcoming the problems associated with using light-weight paper in prior art high speed casing manufacture process without the need to redesign the die or to slow down the manufacturing process to reduce stress on the paper. This is done in two ways. First, a method has been disclosed which employs a modified manufacturing apparatus to reduce paper to metal contact in such a way that paper stress is reduced. This method is fully described at page 13 et seq. of the substitute specification. Second, this invention also claims a method for manufacturing casings which include the use of paper wet strengthened with resins. These papers exhibit superior stretch and strength properties (see

Tables 1-3A) which represents a further improvement over prior art processes.

From the above discussion it can be seen that economic incentive to achieve a goal and successfully achieving that goal are two distinct concepts. Wishful thinking on the part of those skilled in die that it would be advantages to manufacture casing with 15g/m^2 or less weight paper is a far cry from actually inventing a process which accomplishes this end.

Moreover, assuming *arguendo* that a prima facie case of obviousness has been established, the data of record provides more than sufficient evidence for rebutting any such prima facie case of obviousness.

Casing smoothness summary results are reported in specification of application Serial No. 07/730,972, incorporated into this application by reference. Reference to the data at Table 1 of that specification demonstrates that the subject casings are surprisingly and unpredictably smoother both on their inside and outside surfaces than conventional reinforced casings. This is due to the deposition of the viscose (and therefore of the regenerated cellulose) which, together with the fibrous support, comprises the mass of the fibrous casing.

It is also clear that for purposes of reinforcement, the paper substrate, to be effective, should be displaced as far

as possible towards the center or middle of the composite material, i.e. the finished casings. Meeting this requirement also produces a stronger casing than would otherwise be obtained. A review of the casing burst strength in the Table in 07/730,972 shows that casing strength increases for a particular size of fibrous casing, as a function of increasing paper substrate weight, 13 to 17 g/m^2, 13 to 19 g/m^2, and so on. However, despite the lighter weight of the inventive casings, of around 10%, in addition to incorporating lighter substrate paper weights, the inventive casings comprise less regenerated cellulose from viscose. However, casing strengths are seen to decrease by between only 10.2 and 26.6%, for paper basis weight decreases of between 23.5 and 43.5%, which may be attributed to the superior construction of the subject casings.

The economic significance of this latter point is apparent. Indeed, in terms of commercial success of casings which are the subject of this invention, sales volumes have increased by 10% in fiscal 1992, 17% in fiscal 1993, and in terms of casings sold, is running in 10'2 of million meters.

Moreover, the sum effect of the smoothness tests is not as expected from the prior art.

The reason for the unexpectedly superior smoothness properties associated with the appellants' invention is most

likely based on the viscose more thoroughly penetrating the 13g/m^2 paper substrate than the heavier weight paper substrates of the prior art. Given that the viscose is applied to the paper from the outside surface inwards, it is also significant that improvements in smoothness are obtained for both inner and outer surfaces, further attesting to the superiority of the subject casings than those of the prior art.

The greater significance of the smoothness values is twofold. On one hand it points to the fibrous support of the subject tubing, based on 13g/m^2 paper, being more fully embedded in the regenerated cellulose from the secondary viscosing stage of the tubing manufacture than any of the conventional examples, (based on heavier weight substrates), which in turn would be expected to give rise to stronger tubing than would have been predicted (which is shown in the data). On the other hand, a casing possessing smoother surface properties, particularly with respect to the inner surfaces, would be expected also to possess enhanced processing characteristics in terms of not coming enmeshed with the meat of the sausage during ripening stages (for dry sausage manufacture such as a salami) when the casing shrinks with the product as it dries. This avoids any uneven drying at the surface of the sausage which then retards the speed of drying of the sausage's interior and therefore of the whole product. Of

course, the greater elasticity and lighter weight of subject tubing also provides a positive contribution to processing. Enhancement, which overall, results in a significant 25% saving of drying time was observed for the inventive tubing, as set forth in the specification as filed.

Finally, the Examiner has asserted on several occasions that:

> Applicant's claimed unexpected results showing smooth casings are not persuasive because it is the position of the Examiner that where a fibrous casing is thinner and allowed to plasticize the surface[,] the surface would expectedly be smoother, and thus there is really no 'unexpected' results. (January 8, 1998 Official Action at 6).

Applicants respectfully submit that a successful showing of unexpected results has been made and the Examiner's rebuttal of those results is untenable. The Examiner appears to be relying on personal knowledge of casing characteristics which is impermissible in the absence of a prior art reference or affidavit in support of those assertions. **Applicants respectfully invite the Examiner to submit an affidavit under 37 C.F.R. §1.104(d)(2) to substantiate his rebuttal.** In this regard, 37 C.F.R. §1.104(d)(2) provides, in pertinent part:

> When a rejection in an application is based on facts within the personal knowledge of an employee of the office, the data shall be as specific as possible, and the reference must

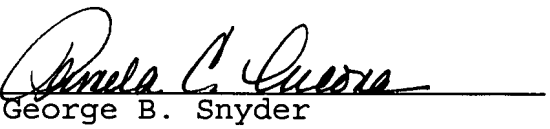
be supported, when called for by the applicant, by the affidavit of such employee... (emphasis added).

Accordingly, in the absence of such an affidavit to support the Examiner's assertions, reconsideration and withdrawal of the Section 103 rejection are respectfully requested.

In view of the foregoing, it is respectfully submitted that the claims are in condition for allowance and such action is earnestly solicited.

Respectfully submitted,

WHITMAN BREED ABBOTT & MORGAN LLP
Attorneys for Applicants

By: 

George B. Snyder
Reg. No. 27,675
Pamela C. Ancona
Reg. No. 41,494
(212)351-3000